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Financial Reporting: The Application of Professional Development and Research

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FINANCIAL REPORTING: THE APPLICATION OF PROFESSIONAL DEVELOPMENT AND RESEARCH

by Hannah C. Hilton

A thesis submitted to the faculty of The University of Mississippi in partial fulfillment of the requirements of the Sally McDonnell Barksdale Honors College.

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ABSTRACT
HANNAH C. HILTON: Financial Reporting: The Application of Professional Development and Research
(Under the direction of Victoria Dickinson)

Financial reporting is the basis upon which investors and other users make financial decisions; therefore, it is important that the information be accurate and complete in accordance with Generally Accepted Accounting Principles (GAAP). This thesis sought to study different areas within financial reporting, such as stockholders' equity, revenue recognition, deferred income taxation, accounts receivable, and other relevant items in compliance with financial reporting standards. The information included in this thesis was gathered through the execution of a series of twelve case studies. The case studies, as completed, apply accounting concepts in conformity with GAAP, International Financial Reporting Standards (IFRS), and the FASB Codification.

This thesis required application of the accounting concepts taught in accounting courses to real-life companies, both domestic and foreign. Analysis of the complex topics included in the case studies required dissection of financial statements, such as the Balance Sheet, Income Statement, Statement of Cash Flows, as well as the notes to the financial statements. Companies often report significant supplementary information within the notes; therefore, analysis of these disclosures, in addition to the financial statements, aided my research. Application of this financial research further expanded and enhanced my knowledge of challenging accounting concepts to utilize within my future career in public accounting. This thesis was created with the intent to investigate critical accounting concepts and principles in compliance with professional rules and regulations. On my Honor, I pledge that I have neither given, received, or witnessed any unauthorized help on these case studies.

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CASE STUDY 1: Home Heaters, Inc.

CASE STUDY 1: Home Heaters, Inc.

Eads Heaters, Inc. and Glenwood Heating, Inc. are two home heating companies based out of Colorado. Both companies began identical operations in the year 20X1. Although both companies had identical transactions, each manager made different accounting decisions when preparing the financial statements at the end of the year. The purpose of this report is to analyze the accounting choices made by the managers of both companies to ultimately decide which company is the better investment.

After thorough analysis of transactions made by each company and running the respective financial statements, it has been determined that Glenwood Heating, Inc. is the most profitable company. At the end of the first year, Glenwood Heating had a net income of $94,742, whereas Eads Heaters finished with a net income of $70,515.[1] Glenwood Heating also had a 14.43 percent return on assets and a 40.40 percent return on equity.[2] In contrast, Eads Heaters' return on assets and return on equity were 10.01 percent and 34.01 percent, respectively. Investors of Glenwood Heating can expect earnings per share of $17.84, while those invested in Eads Heaters can expect $13.56. Additional information can be found in the financial statements included in this report.

The year-end accounting decisions made by the manager of Glenwood Heating, Inc. led the company to have higher current assets, higher net income, and fewer liabilities than Eads Heaters had. Such decisions include estimating less uncollectible accounts, depreciating long term assets using solely straight-line depreciation, as well as booking leased equipment as an operating expense rather than capitalizing the leased

[1] Net Income can be found pages 4 and 5.
[2] Ratios can be found on page 9.

equipment. As Glenwood Heating, Inc. is the most profitable company with the highest returns and net income, it would give investors a higher return on their investment. Therefore, Glenwood Heating, Inc. would be the recommended company in which to invest.

After reviewing these differing accounting decisions, I now understand how different choices and estimates can have a large impact financial statement information. Even the smallest of choices can lead to an investor choosing a competitor instead. In the future, I will use this knowledge to think more wisely when applying generally accepted accounting principles and to better make recommendations to advisory clients.

Glenwood Heating, Inc. reported a higher net income than Eads Heaters, Inc. because of the differing accounting choices. When estimating receivables, the manager of Eads Heaters, Inc. estimated that five percent of ending accounts receivable would be uncollectible. As the Accounts Receivable account was $99,400 at year-end, the allowance for bad debts was $4, 970. In regards to cost of goods sold, the manager chose the LIFO method to calculate, which decreased the Inventory account by $188,800. The manager made the decision to enter into a capital lease agreement rather than rent equipment on a yearly basis, which added leased equipment worth $92,000 to the company's assets. 25 percent of Net Income was expensed for Income Tax.

In contrast, the manager of Glenwood Heating, Inc. estimated that one percent of ending accounts receivable would be uncollectible. As the Accounts Receivable account was $99,400 at year-end, the allowance for bad debts was $994. In regards to cost of goods sold, the manager chose the FIFO method to calculate, which decreased the Inventory account by $177,000. The manager made the decision to rent equipment on a

yearly basis, which led to a Rent Expense of $16,000. Finally, an estimated 25 percent of Net Income was expensed for Income Tax. The figures included in this case study are provided to supplement the analysis of the two heating corporations.

Figure 1-1: Eads Heaters, Inc. Income Statement

Eads Heaters, Inc. Income Statement For Year Ended December 31, 20X1		
Sales		$398,500
Cost of Goods Sold		188,800
Gross Profit		$209,700
Operating Expenses		
Other Operating Expense	$34,200	
Bad Debt Expense	4,970	
Depreciation Expense- Building	10,000	
Depreciation Expense- Equipment	20,000	
Depreciation Expense- Leased Equipment	11,500	80,670
Income from Operations		$129,030
Other Expenses and Losses		
Interest Expense		35,010
Income Before Taxes		$94,020
Income Tax Expense		23,505
Net Income		$70,515

Figure 1-2: Glenwood Heating Inc, Income Statement

Glenwood Heating, Inc. Income Statement For Year Ended December 31, 20X1		
Sales		$398,500
Cost of Goods Sold		177,000
Gross Profit		$221,500
Operating Expenses		
Other Operating Expense	$34,200	
Bad Debt Expense	994	
Depreciation Expense- Building	10,000	
Depreciation Expense- Equipment	9,000	
Rent Expense- Leased Equipment	16,000	70,194
Income from Operations		$151,306
Other Expenses and Losses		
Interest Expense		27,650
Income Before Taxes		$123,656
Income Tax Expense		30,914
Net Income		$92,742

Figure 1-3: Eads Heaters, Inc. Statement of Retained Earnings

Eads Heaters, Inc. Statement of Retained Earnings For Year Ended December 31, 20X1	
Retained Earnings- January 1, 20X1	-
Plus: Net Income	$70,515
	$70,515
Less: Dividends	23,200
Retained Earnings- December 31, 20X1	$47,315

Figure 1-4: Glenwood Heating, Inc. Statement of Retained Earnings

Glenwood Heating, Inc. Statement of Retained Earnings For Year Ended December 31, 20X1	
Retained Earnings- January 1, 20X1	-
Plus: Net Income	$92,742
	$92,742
Less: Dividends	23,200
Retained Earnings- December 31, 20X1	$69,542

Figure 1-5: Eads Heaters, Inc. Classified Balance Sheet

Eads Heaters, Inc. Classified Balance Sheet As of December 31, 20X1		
Assets		
Current Assets		
Cash		$7,835
Accounts Receivable	99,400	
Less: Allowance for Doubtful Accounts	4,970	94,430
Inventory		51,000
Total Current Assets		153,265
Property, Plant and Equipment		
Land		70,000
Building	350,000	
Less: Accumulated Depreciation- Building	10,000	340,000
Equipment	80,000	
Less: Accumulated Depreciation- Equipment	20,000	60,000
Leased Equipment	92,000	
Less: Accumulated Depreciation- Leased Equipment	11,500	80,500
Total Property, Plant and Equipment		550,500
Total Assets		$703,765
Liabilities and Stockholders' Equity		
Current Liabilities		
Accounts Payable		$26,440
Interest Payable		6,650
Lease Payable		83,360
Total Current Liabilities		116,450
Long-Term Liabilities		
Note Payable		380,000
Total Liabilities		$496,450
Stockholders' Equity		
Common Stock, authorized and issued, 3,200 shares		160,000
Retained Earnings		47,315
Total Stockholders' Equity		$207,315
Total Liabilities and Stockholders' Equity		$703,765

Figure 1-6: Glenwood Heating, Inc. Classified Balance Sheet

Glenwood Heating, Inc. Classified Balance Sheet As of December 31, 20X1		
Assets		
Current Assets		
Cash		$426
Accounts Receivable	99,400	
Less: Allowance for Doubtful Accounts	994	98,406
Inventory		62,800
Total Current Assets		161,632
Property, Plant and Equipment		
Land		70,000
Building	350,000	
Less: Accumulated Depreciation- Building	10,000	340,000
Equipment	80,000	
Less: Accumulated Depreciation- Equipment	9,000	71,000
Total Property, Plant and Equipment		481,000
Total Assets		$642,632
Liabilities and Stockholders' Equity		
Current Liabilities		
Accounts Payable		$26,440
Interest Payable		6,650
Total Current Liabilities		33,090
Long-Term Liabilities		
Note Payable		380,000
Total Liabilities		$413,090
Stockholders' Equity		
Common Stock, authorized and issued, 3,200 shares		160,000
Retained Earnings		69,542
Total Stockholders' Equity		$229,542
Total Liabilities and Stockholders' Equity		$642,632

Figure 1-7: Eads Heaters, Inc. Ratio Analysis

Current Ratio = 30.87%

Current Assets / Current Liabilities = $153,265 / $496,450

Return on Assets = 10.01%

Net Income / Average Total Assets = $70,515 / $703,765

Return on Equity = 34.01%

Net Income / Average Stockholders' Equity = $70,515 / $207,315

Profit Margin Ratio = 17.70%

Net Income / Sales = $70,515 / $398,500

Earnings Per Share = $13.56

Net Income / Number of Common Shares Outstanding = $70,515 / 5,200 shares

Figure 1-8: Glenwood Heating, Inc. Ratio Analysis

Current Ratio = 39.13%

Current Assets / Current Liabilities = $161,632 / $413,090

Return on Assets = 14.43%

Net Income / Average Total Assets = $92,742 / $642,632

Return on Equity = 40.40%

Net Income / Average Stockholders' Equity = $92,742 / $229,542

Profit Margin Ratio = 23.27%

Net Income / Sales = $94,742 / $398,500

Earnings Per Share = $17.84

Net Income / Number of Common Shares Outstanding = $92,742 / 5,200 shares

APPENDICES—CASE STUDY 1: Home Heaters, Inc.

The following figures were used to determine the financial information included in the body of this case.

Appendix A-1: Home Heaters, Inc. First Year Transactions

ASSETS

Transaction	Cash	Accounts Receivable	Inventory	Land	Building	Equipment
No.1	$160,000					
No. 2	400,000					
No. 3	(420,000)			$70,000	$350,000	
No. 4	(80,000)					$80,000
No. 5			$239,800			
No. 6		$358,500				
No. 7	229,100	(229,100)				
No. 8	(213,360)					
No. 9	(41,000)					
No. 10	(34,200)					
No. 11	(23,200)					
No. 12						
Balances	$47,340	$99,400	$239,800	$70,000	$350,000	$80,000

LIABILITIES STOCKHOLDERS' EQUITY

Transaction	Accounts Payable	Notes Payable	Interest Payable	+	Common Stock	Retained Earnings
No.1					$160,000	
No. 2		$400,000				
No. 3						
No. 4						
No. 5	$239,800					
No. 6						$398,500
No. 7						
No. 8	(213,360)					
No. 9		(20,000)				(21,000)
No. 10						(34,200)
No. 11						(23,200)
No. 12			$6,650			(6,650)
	$26,440	$380,000	$6,650		$160,000	$313,450

Eads Heaters, Inc. and Glenwood Heating, Inc. completed identical transactions in their first year of operations. Each entry was recorded the same in accordance with generally accepted accounting principles.

Appendix A-2: Home Heaters, Inc. Trial Balance

Home Heaters Trial Balance As of December 31, 20X1		
	Debits	**Credits**
Cash	$47,340	
Accounts Receivable	99,400	
Inventory	239,800	
Land	70,000	
Building	350,000	
Equipment	80,000	
Accounts Payable		$26,440
Note Payable		380,000
Interest Payable		6,650
Common Stock		160,000
Dividends	23,200	
Sales		398,500
Other Operating Expenses	34,200	
Interest Expense	27,650	
Total	$971,590	$971,590

Appendix A-3: Eads Heaters, Inc. Adjusting Transactions

ASSETS

Transactions	Cash	Accts. Rec.	Allowance for Bad Debts	Inventory	Land	Building	Equipment	Leased Equipment	Accumulated Depreciation
Balance: Part A	$47,340	$99,400		$239,800	$70,000	$350,000	$80,000		
Part B:									
1) Bad Debts			($4,970)						
2) COGS				(188,800)					
3) Depreciation									
Building									($10,000)
Equipment									(20,000)
4) Equipment									
Lease								$92,000	
Lease Payment	(16,000)								
Depreciation									(11,500)
5) Income Tax	(23,505)								
Balances	$7,835	$99,400	($4,970)	$51,000	$70,000	$350,000	$80,000	$92.000	($41,500)

Appendix A-3 Continued

	LIABILITIES				STOCKHOLDERS' EQUITY	
Transactions	**Accounts Payable**	**Interest Payable**	**Notes Payable**	**Lease Payable**	**Common Stock**	**Retained Earnings**
Balance: Part A	$26,440	$6,650	$380,000		$160,000	$313,450
Part B:						
1) Bad Debts						(4,970)
2) COGS						(188,800)
3) Depreciation						
Building						(10,000)
Equipment						(20,000)
4) Equipment						
Lease				$92,000		
Lease Payment				(8,640)		(7,360)
Depreciation						(11,500)
5) Income Tax						(23,505)
Balances	$26,440	$6,650	$380,000	$83,360	$160,000	$47,315

Appendix A-4: Eads Heaters, Inc. Adjusted Trial Balance

Eads Heaters, Inc. Trial Balance As of December 31, 20X1		
	Debits	**Credits**
Cash	$7,835	
Accounts Receivable	99,400	
Allowance for Bad Debts		$4,970
Inventory	51,000	
Land	70,000	
Building	350,000	
Accumulated Depreciation- Building		10,000
Equipment	80,000	
Accumulated Depreciation- Equipment		20,000
Leased Equipment	92,000	
Accumulated Depreciation- Leased Equipment		11,500
Accounts Payable		26,440
Note Payable		380,000
Interest Payable		6,650
Lease Payable		83,360
Common Stock		160,000
Dividends	23,200	
Sales		398,500
Cost of Goods Sold	188,800	
Other Operating Expense	34,200	
Bad Debt Expense	4,970	
Depreciation Expense- Building	10,000	
Depreciation Expense- Equipment	20,000	
Depreciation Expense- Leased Equipment	11,500	
Interest Expense	35,010	
Provision for Income Tax	23,505	
Total	$1,101,420	$1,101,420

Appendix A-5: Glenwood Heating, Inc. Adjusting Transactions

ASSETS

Transactions	Cash	Accts. Receivable	Allowance for Bad Debts	Inventory	Land	Building	Equipment	Accumulated Depreciation
Balance: Part A	$47,340	$99,400		$239,800	$70,000	$350,000	$80,000	
Part B:								
1) Bad Debts			(994)					
2) COGS				(177,000)				
3) Depreciation								
Building								(10,000)
Equipment								(9,000)
4) Equipment Rental Payment	(16,000)							
5) Income Tax	(30,914							
Balances	$426	$99,400	($994)	$62,800	$70,000	$350,000	$80,000	($19,000)

Appendix A-5 Continued

		LIABILITIES		STOCKHOLDERS' EQUITY	
Transactions	**Accounts Payable**	**Interest Payable**	**Notes Payable**	**Common Stock**	**Retained Earnings**
Balance: Part A	$26,440	$6,650	$380,000	$160,000	$313,450
Part B:					
1) Bad Debts					(994)
2) COGS					(177,000)
3) Depreciation					
Building					(10,000)
Equipment					(9,000)
4) Equipment Rental Payment					(16,000)
5) Income Tax					(30,914)
Balances	$26,440	$6,650	$380,000	$160,000	$69,542

Appendix A-6: Glenwood Heating, Inc. Adjusted Trial Balance

Glenwood Heating, Inc. Trial Balance As of December 31, 20X1		
	Debits	**Credits**
Cash	$7,835	
Accounts Receivable	99,400	
Allowance for Bad Debts		$994
Inventory	62,800	
Land	70,000	
Building	350,000	
Accumulated Depreciation- Building		10,000
Equipment	80,000	
Accumulated Depreciation- Equipment		9,000
Accounts Payable		26,440
Note Payable		380,000
Interest Payable		6,650
Lease Payable		83,360
Common Stock		160,000
Dividends	23,200	
Sales		398,500
Cost of Goods Sold	177,000	
Other Operating Expense	34,200	
Bad Debt Expense	994	
Depreciation Expense- Building	10,000	
Depreciation Expense- Equipment	9,000	
Rent Expense	16,000	
Interest Expense	27,650	
Provision for Income Tax	30,914	
Total	$991,584	$991,584

CASE STUDY 2: Molson Coors Brewing Company

CASE STUDY 2: Molson Coors Brewing Company

Molson Coors Brewing Company is a company committed to producing high-quality beers with brands designed to appeal to a variety of customers and their preferences. Through the interpretation of Molson Coors Brewing Company financial statements, users are able to learn about the company's performance. This report is designed to help these users learn the meaning of specific financial statement items, as well as how they should be interpreted. All information comes from the financial statements of Molson Coors Brewing Company.

From the Molson Coors Brewing Company case study, I gained new knowledge regarding income statement information. I learned the differing classifications of income and expenses, such as operating or non-operating. In addition, I learned about the following: special line items related to unusual transactions, comprehensive income, unrealized gains and losses, and effective tax rates. The case study increased my ability to analyze income statement information, which can be applied in my future career.

Income Statement line items vary according to industry; however, the major classifications generally include Revenues and Expenses. The Income Statement is divided into sections, which include Operating, Non-Operating, Income Tax, Discontinued Operations, Non-Controlling Interest, as well as Earnings Per Share. The Operating section includes Sales or Revenues less Expenses such as Cost of Goods Sold, Selling Expenses, and Administrative Expenses. The Non-Operating section states other Revenues, Gains, Expenses, and Losses not related to the company's daily operations. Income Tax,

Discontinued Operations, Non-Controlling Interest, and Earnings Per Share are also involved in the calculation of Net Income or Net Loss.

As United States Generally Accepted Accounting Principles (GAAP) encourage internal controls and discourages any fraudulent acts, companies in the United States are required to provide "classified" income statements. A classified income statement aids an investor in making more informed decisions. By separating operating and non-operating activities, it allows an investor to better understand the profitability of the company based on its everyday operations. In addition, the going concern of a company can be better analyzed. For example, a company may experience many unusual transactions that boost net income for the year, but the company may not have profitable operations. The Classifying various categories of revenues and expenses gives users a more in depth understanding of the company's operations and ability to continue as an entity.

Financial statement users, particularly investors and creditors, may be interested in a measure of persistent income as it allows them to compare income over many periods. Persistent income helps users to more accurately predict earnings in the future or ability to pay debt as it becomes due. A creditor would be more apt to lend financial resources to a company with consistent or increasing yearly earnings. Additionally, an investor may find past earnings useful to value the company in the future. Therefore, a measure of persistent income may be essential for creditors and investors prior to lending or investing.

Comprehensive Income encompasses the total change in the equity of a company from non-owner sources. Comprehensive Income includes net income

plus unrealized gains and losses incurred. An unrealized gain or loss is incurred when an asset or security changes in value after it has been purchased, but before it is resold. Reporting an unrealized gain or loss allows a company to value their securities or other assets at fair value. Fair value is increased or decreased through unrealized gains and losses for valuation purposes. Net Income, although similar, does not include these changes in equity as they have not been realized yet.

The income statement of Molson Coors reports sales and net sales differently and separately. The difference between sales and net sales on Molson Coors' income statement is that the reported sales amount does not include the money paid to the government in the form of excise taxes. Excise taxes apply when purchases are made on specific goods such as alcohol, which is Molson Coors main product. Molson Coors reports these two items separately to clarify the net amount of revenue received through sales, which is the monetary price less excise tax.

Molson Coors lists a line item on their income statement called "Special Items, net," as well as additional note disclosures regarding the special items. In general, the special items Molson Coors includes in the line item "Special items, net" are charges or gains that do not coincide with their core operations. This includes employee-related charges, impairments, unusual items, and more.

Molson Coors reports these special items on a separate line item rather than with another expense item as to make note of the unusual and infrequent nature of these charges or gains. Molson Coors classifies these special items as operating expenses, rather than non-operating expenses. I do not agree with this

classification, as the items are not a part of Molson Coors' daily operations. For example, one special item records the reimbursement of insurance due to losses caused by flooding in the Czech Republic. As this is not a daily occurrence that coincides with operating and producing beer, it is a non-operating expense and should be reported as such.

In addition to special items, Molson Coors reports "Other income (expense), net" with note disclosures. The income statement item "Other income (expense), net" includes expenses not related to operating; however, they are more likely to reoccur in future periods. As previously mentioned, the special line items should also be classified as a non-operating expense as they are more unique and less likely to occur in future periods. Although these are both non-operating expenses, "Other income (expense), net" occurs more frequently than special line items.

The amount of comprehensive income in 2013 is $765.4 million, less $5.2 million attributable to non-controlling interests, for a total of $760.2 million in comprehensive income attributable to Molson Coors. This amount is $187.7 million more than the net income in 2013 of $572.5 million. Comprehensive income for 2013 differs from net income, as it includes unrealized gains and losses, whereas net income does not include these items. The items included in Molson Coors' comprehensive income are related as they recognize unrealized gains on instruments, adjustments for foreign currency, and more. Comprehensive income also includes the distribution of income to non-controlling interests, which pays the minority owner of Molson Coors' subsidiaries.

Molson Coors' effective tax rate in 2013 is 12.8 percent. This rate was calculated by dividing the Income Tax Expense of $84 million by the Pre-Tax Income of $654.5. The effective tax rate is the average rate at which pre-tax profits are taxed. Following the tax reform beginning in 2019, corporate tax rates are now a flat 21 percent. This is down from 35 percent in years prior, therefore corporations will be at an advantage as compared to prior years.

CASE STUDY 3: Pearson, PLC.

CASE STUDY 3: Pearson, PLC.

Pearson, PLC. is an international company with a variety of operations relating to education, business information, and consumer publishing. Pearson is connected to a variety of countries; thus, its financial statements are prepared according to IFRS. With sales of £5.6 billion and receivables of over £1.28 billion in 2009, Pearson is a great example of a large company that must estimate uncollectible accounts and sales returns. The purpose of this report is to analyze financial statements in order to explain terminology related to accounts receivable and its contra receivable accounts, as well as to identify the amounts that correspond with these accounts.

This case has allowed me to take a look at international financial statements to learn how many differences there may be, especially in regards to IFRS and United States GAAP. For example, Provisions for Bad and Doubtful Debts is translated to Allowance for Doubtful Accounts in United States GAAP. Through analyzing specific financial statement parts and line items, I have gained a deeper understanding about accounts receivable, the different approaches to estimating bad debts and sales returns, and how uncollectible accounts are written off. I learned that not all accounts receivable are going to be collected; therefore, an estimate of bad debts must be made to report accounts receivable at their net realizable value. Furthermore, it was refreshing to get to view financial statements prepared according to IFRS. In the future, I will put this case knowledge to use when I, myself, will be estimating uncollectible items or auditing a company that has had to.

PART A: What is an account receivable? What other names does this go by?

An account receivable is recorded when a customer owes an amount to a company for goods or services purchased. For example, when a customer purchases an item on credit, accounts receivable is increased. This asset can also be referred to as "trade receivables." Accounts receivable have a normal debit balance.

PART B: How do accounts receivable differ from notes receivable?

Accounts receivable are different than notes receivable in terms of when cash is collected, as well as from differing transaction types. Cash is usually collected for accounts receivable within 30 to 60 days, whereas for notes receivable cash is collected on a specific date in the future. Accounts receivable mainly relate to sales of goods and services, while notes receivable may relate to sales, financing, or other transactions. In addition, notes receivable are often interest-bearing, while accounts receivable are not. Therefore, Pearson will receive additional earnings on the note.

PART C: What is a contra account? What two contra accounts are associated with Pearson's trade receivables (see Note 22)? What types of activities are captured in each of these contra accounts? Describe factors that managers might consider when deciding how to estimate the balance in each of these contra accounts.

A contra account on a balance sheet decreases the related asset, liability, or owners' equity account. The two contra accounts associated with Pearson's trade receivables are Anticipated Future Sales Returns and Provisions for Bad and

Doubtful Debts. In United States GAAP, these account names translate to Allowance for Sales Returns and Allowances and Allowance for Doubtful Accounts, respectively.

For Allowance for Sales Returns and Allowances, activities such as estimating Sales Returns and Allowances increase the account balance, while actual sales returns decrease the account balance. For Allowance for Doubtful Accounts, activities such as estimating Bad Debt Expense increase the account balance, while write-offs for specific accounts decrease the account balance. Factors managers might consider when estimating the balance in these contra accounts include past bad debt expenses and relationships with customers to estimate the likelihood of their payment.

PART D: Two commonly used approaches for estimating uncollectible accounts receivable are the percentage-of-sales procedure and the aging-of-accounts procedure. Briefly describe these two approaches. What information do managers need to determine the activity and final account balance under each approach? Which of the two approaches do you think results in a more accurate estimate of net accounts receivable?

The percentage-of-sales procedure is an income statement approach for estimating bad debts. Past performance and other factors are the basis for the percentage calculated. Bad Debts Expense is calculated by multiplying the calculated percentage by credit sales. This is followed by an adjusting entry to recognize bad debts and decrease accounts receivable.

The aging-of-accounts procedure sorts accounts receivable in chronological order according to dates of unpaid invoices. An aging schedule will perhaps include under 30 days, 30-60 days, 61-90 days, and so on; the later the periods the higher the percentage estimated to be uncollectible. The purpose is to have an accurate valuation of receivables on the balance sheet that will be paid in cash at some point. The aging-of-accounts approach is a more accurate estimate of net accounts receivable as it identifies specific accounts and days past due.

PART E: If Pearson anticipates that some accounts will be uncollectible, why did the company extend credit to those customers in the first place? Discuss the risks that managers must consider with respect to accounts receivable.

Pearson extended credit to specific customers as to be unbiased, even if they could reasonably estimate there would be uncollectible amounts. There are risks involved with every business decision, but it is important to recognize when the benefits outweigh the costs. Managers must consider that accounts receivable may not always be paid in full, nor on time; however, the benefit of these sales generally outweigh the risks.

The following information relates to Part F i through iii: *Note 22 reports the balance in Pearson's provision for bad and doubtful debts (for trade receivables) and reports the account activity ("movements") during the year ended December 31, 2009. Note that Pearson refers to the trade receivables contra account as a "provision." Under U.S. GAAP, the receivables contra account is typically referred to as an "allowance" while the term provision is used to describe the*

current-period income statement charge for uncollectible accounts (also known as bad debt expense).

PART F(i): Use the information in Note 22 to complete a T-account that shows the activity in the provision for bad and doubtful debts account during the year. Explain, in your own words, the line items that reconcile the change in account during 2009.

Figure 3-1: Allowance for Doubtful Accounts T-Account

Allowance for Doubtful Accounts (in millions)

	Beginning Balance 72
Exchange Differences 5	
Utilised 20	Income Statement Movements 26
	Acquisition through Business Combination 3

Ending Balance 76

The line items that reconcile the change include:

Exchange Differences— these differences represent foreign transactions and the differences between currencies when accounts are paid.

Utilised— this line item represents the amount written off for specific accounts.

Income Statement Movements— this line item represents the bad debts expense amount on the income statement.

Acquisition through Business Combination— this line item represents the doubtful accounts recognized when a subsidiary or other business is combined with Pearson's current operations.

PART F(ii): Prepare the journal entries that Pearson recorded during 2009 to capture 1) bad and doubtful debts expense for 2009 (that is, the "income statement movements") and 2) the write-off of accounts receivable (that is, the amount "utilised") during 2009. For each account in your journal entries, note whether the account is a balance sheet or income statement account.

The journal entries are as follows. All amounts are in millions of pounds sterling (£).

Bad Debt Expense (Income Statement)	26	
Allowance for Doubtful Accounts (Balance Sheet)		26
Allowance for Doubtful Accounts (Balance Sheet)	20	
Accounts Receivable (Balance Sheet)		20

PART F(iii): Where in the income statement is the provision for bad and doubtful debts expense included?

The provision for bad and doubtful debts expense, otherwise known as bad debts expense, is located on the income statement under operating expenses. It is specifically located under Selling, General and Administrative Expenses.

The following information relates to Part G i through iii: *Note 22 reports that the balance in Pearson's provision for sales returns was £372 at December 31, 2008 and £354 at December 31, 2009. Under U.S. GAAP, this contra account is typically referred to as an "allowance" and reflects the company's anticipated sales returns.*

PART G(i): Complete a T-account that shows the activity in the provision for sales returns account during the year. Assume that Pearson estimated that returns relating to 2009 Sales to be £425 million. In reconciling the change in the account, two types of journal entries are required, one to record the estimated sales returns for the period and one to record the amount of actual book returns.

Figure 3-2: Allowance for Sales Returns and Allowances T-Account

Allowance for Sales Returns and Allowances (in millions)

	Beginning Balance 372
Actual Book Returns 425	Estimated Sales Returns 407
	Ending Balance 354

PART G(ii): Prepare the journal entries that Pearson recorded during 2009 to capture, 1) the 2009 estimated sales returns and 2) the amount of actual book returns during 2009. In your answer, note whether each account in the journal entries is a balance sheet or income statement account.

The journal entries are as follows. All amounts are in millions of pounds sterling (£).

Sales Returns and Allowances (Income Statement)	407	
Allowance for Sales Returns and Allowances (Balance Sheet)		407
Allowance for Sales Returns and Allowances (Balance Sheet)	425	
Accounts Receivable (Balance Sheet)		425

PART G(iii): In which income statement line item does the amount of 2009 estimated sales returns appear?

Estimated sales returns do not appear in a line item on the income statement, but is instead deducted from the total amount of Sales.

PART H: Create a T-account for total or gross trade receivables (that is, trade receivables before deducting the provision for bad and doubtful debts and the provision for sales returns). Analyze the change in this T-account between December 31, 2008 and 2009. (Hint: your solution to parts f and g will be useful here). Assume that all sales in 2009 were on account. That is, they are all "credit sales." You may also assume that there were no changes to the account due to business combinations or foreign exchange rate changes. Prepare the journal entries to record the sales on account and accounts receivable collection activity in this account during the year.

Figure 3-3: Accounts Receivable T-Account

Accounts Receivable (in millions)

Beginning Balance 1342	
Sales 5624	Cash Collection 5237
	Write-Off of Doubtful Accounts 20
	Actual Book Returns 425
Ending Balance 1284	

The journal entries are as follows. All amounts are in millions of pounds sterling (£).

Accounts Receivable	5624	
Sales		5624
Cash	5237	
Accounts Receivable		5237

CASE STUDY 4: Time Value of Money—A Step-by-Step Guide

CASE STUDY 4: Time Value of Money—A Step-by-Step Guide

The time value of money is a concept that is extremely important not only for use in accounting applications, but also for many personal applications, such as for planning for retirement or even a future vacation. The time value of money relates to the way investments grow over time with compound interest. The purpose of this report is to show an individual with little to no knowledge of the time value of money how to work a problem step by step. This report will be helpful to these individuals, as it will allow them to apply these concepts when investing.

Through this case I was able to become familiar with time value of money problems. I can apply this valuable knowledge in the future when I begin saving towards retirement, the college funds for my future children, or intend to find the value of a bond and much more. I learned that compound interest greatly increases the value of an investment, though the original principal may not be touched by the investor for many years at a time. The present value of an annuity is the current value of a series of future payments. The present value of a single sum is the current value of a single sum of money. The future value of an annuity is the value of a series of payments at a future date. The future value of a single sum is the amount an investment will accumulate to by a future date. The following case includes cases of individuals considering the amount of periodic payments needed to invest over a defined period or the lump-sum to invest at a given date to receive a single payment or a series of payments in the future.

1. **What is the amount of the payments that Ned Winslow must make at the end of each of 8 years to accumulate a fund of $90,000 by the end of the eighth year, if the fund earns 8% interest, compounded annually?**

To work this particular problem, one must begin by classifying whether this amount is a lump sum or an annuity. Since Ned will be making payments each year for 8 years at a rate of 8%, this is an annuity problem. As the payments are at the end of the year and the last cash flow earns zero periods of interest, it is an ordinary annuity. $90,000 is a future value, thus it is a future value ordinary annuity problem. To find the future value of an ordinary annuity for 8 periods at 8%, one must refer to your Future Value of an Ordinary Annuity of 1 table, where in row 8 under the 8% column one would find 10.63663 as the annuity factor. Then one would divide the accumulated fund of $90,000 by the annuity factor, 10.63663. Finally, the amount of $8,461 is found to represent the payment made at the end of each of 8 years.

$90,000 / 10.63663= **$8,461 annual payment**

2. **Robert Hitchcock is 40 years old today and he wishes to accumulate $500,000 by his sixty-fifth birthday so that he can retire to his summer place on Lake Hopatcong. He wishes to accumulate this amount by making equal deposits on his fortieth through sixty-fourth birthdays. What annual deposit must Robert make if the fund will earn 8% interest compounded annually?**

The first step to this problem is determining the number of cash flows and the type of annuity. As the deposits are on his fortieth through sixty-fourth birthdays and the $500,000 must be accumulated by his sixty-fifth birthday, this is an annuity due problem with 25 periods as the last cash flow earns one period of interest. $500,000 is a future value, so a future value of an annuity due factor will be used. In the Future Value of an Annuity Due table in row 25 under the eight percent column, one would find the future value of an annuity due factor of 78.95442. Next, one must divide $500,000 by this factor, 78.95442. The amount calculated is $6,332.77, meaning Robert Hitchcock must deposit $6,332.77 on his birthday for the next 25 years.

$500,000 / 78.95442= **$6,332.77 annual deposits**

3. **Diane Ross has $20,000 to invest today at 9% to pay a debt of $47,347. How many years will it take her to accumulate enough to liquidate the debt?**

To begin, one must classify whether this is a single-sum or an annuity problem. As there is only one deposit of $20,000, this is a single-sum problem. The goal of the problem is to find out how many years until her initial investment will reach $47,347, therefore a future value of a single sum factor must be used. To find the factor, one must divide $47,347 by $20,000 to find the factor, which is 2.36735. It is known that the interest rate is nine percent, so on the Future Value of 1 table one would be searching for the value of 2.36735 under the nine percent column. This factor correlates to ten periods at nine percent. This means that it would take Diane's initial investment of $20,000 ten years to grow to $47,347.

$47,347 / $20,000= **2.36735 Future Value of a Single Sum Factor**

4. **Cindy Houston has a $27,600 debt that she wishes to repay 4 years from today; she has $19,553 that she intends to invest for the 4 years. What rate of interest will she need to earn annually in order to accumulate enough to pay the debt?**

Step one of this problem is to determine whether this is a single-sum or an annuity problem. Since there is only one investment, it is a single-sum problem. As $27,600 is the amount to be repaid 4 years from now, a future value of a single sum factor is used. The factor is found by dividing the amount to be repaid, $27,600 by the initial investment, $19,553. The factor calculated is 1.41155. The investment will gain interest for 4 periods; however the interest rate is unknown. The interest rate is found by looking at the Future Value of 1 table under row 4, searching over to find 1.44258 under the nine percent column. Therefore, for Cindy's debt of $27,600 to be repaid in 4 years, she must deposit $19,553 at an interest rate of nine percent

$27,600 / $19,553= **1.41155 Future Value of a Single Sum Factor**

CASE STUDY 5: Palfinger AG

CASE STUDY 5: Palfinger AG

Palfinger AG is an Austrian manufacturer of hydraulic lifting, loading, and handling solutions, with operations worldwide. Palfinger offers a variety of products, including cranes, container handling systems, transportable forklifts, and more. The company serves industries that range from construction to recycling. As an international company, Palfinger prepares its financial statements according to International Financial Reporting Standards (IFRS). The purpose of this report is to examine Palfinger's Property, Plant, and Equipment to further understand depreciation, capitalization, and other items related to fixed assets.

After reviewing Palfinger's Property, Plant, and Equipment, I now I have a more in-depth understanding of treatment for fixed assets. This case has also allowed me to view the way international companies record Property, Plant, and Equipment according to IFRS, which helps me to widen my array of knowledge regarding IFRS and GAAP. In addition, applying the different approaches for depreciation and expenditures helped me to learn the difference between straight-line depreciation and double-declining balance depreciation. I learned that the straight-line method is easier to utilize, as the depreciation expense remains fixed over the useful life of a capital asset. I also learned that the useful life of an asset may be difficult to determine and is often an estimate made at management's discretion. In the future, I will use this new knowledge to ensure property, plant, and equipment are valued and recorded correctly in either my own books or my client's.

PART A: Based on the description of Palfinger above, what sort of property and equipment do you think the company has?

As described, Palfinger AG's core operations include manufacturing hydraulic lifting, loading, and handling solutions. Palfinger caters to a variety of industries such as construction, agriculture, and more. Therefore, there would be a large amount of property, plant, and equipment. An example of property used by the company would be large plants for production and potentially distribution, including preparation of new sites and all land improvements. Within the plants, there would be equipment such as knuckle lifts, bucket trucks, and hydraulic elevators to move the substantially sized products, as well as machinery for production of the items. Equipment may include trucks and other tangible property included in Palfinger's business operations.

PART B: The 2007 balance sheet shows property, plant, and equipment of €149,990. What does this number represent?

The number €149,990 shown on the balance sheet represents the historical cost of property, plant, and equipment as of 2007, adjusted for depreciation. Depreciation is calculated under the straight-line method, with anticipated useful life of 3-15 years for plant and machinery, 3-10 years for fixtures, fittings, and equipment, and 8-50 years for buildings. Palfinger notes that if a fixed asset is marked for sale, the asset is still included in PPE. The asset is reported at net realizable value less selling costs, and is no longer depreciated. Land, however, is not depreciated. This number also represents all permanent land improvements, such as trees or shrubbery.

PART C: What types of equipment does Palfinger report in notes to the financial statements?

In the notes to the financial statements, Palfinger reports equipment as a variety of items. They report own buildings and investments in third-party buildings, undeveloped buildings, prepayments and assets under construction, plant and machinery, as well as fixtures, fittings, and equipment. They note that interest on borrowings are not capitalized, so they are not included in PPE. Replacement investments and value enhancing investments are capitalized and depreciated; therefore, they are included in PPE.

PART D: In the notes, Palfinger reports "Prepayments and assets under construction." What does this sub-account represent? Why does this account have no accumulated depreciation? Explain the reclassification of €14,958 in this account during 2007.

In this case, Palfinger has reported "Prepayments and assets under construction." In United States GAAP, this account is known as "Self Constructed Assets" and includes Construction in Process. Self Constructed Assets are built by the company and include the costs associated with materials and labor involved in the construction. As these are not typical buildings, they should not be classified as so, therefore, this account is used. The account does not have accumulated depreciation, as the assets under construction have not entered their useful life. The reclassification of €14,958 in "Prepayments and assets under construction" suggests that Palfinger distributed this amount to property, plant, and equipment

to reclassify the asset from construction in process to fixed assets. Thus, these assets will begin their useful life and start to be depreciated.

PART E: How does Palfinger depreciate its property and equipment? Does this policy seem reasonable? Explain the trade-offs management makes in choosing a depreciation policy.

Palfinger depreciates its property and equipment through the straight-line depreciation method. The straight-line depreciation method is used as a function of time, not of usage. While Palfinger's buildings and plants in use may be reasonably estimated through the straight-line method, it is not reasonable for the manufacturing equipment due to inconsistent usage. As Palfinger's property and equipment are both used within many processes, it is much more appropriate to depreciate these assets based on use. The main advantage of the straight-line method is that it is easy to calculate and is consistent over many years; however, it is much too simple to allocate costs this way for this specific company due to the inconsistent usage. Rather, an activity-based allocation would provide a more accurate depreciation expense.

PART F: Palfinger routinely opts to perform major renovations and value-enhancing modifications to equipment and buildings rather than buy new assets. How does Palfinger treat these expenditures? What is the alternative accounting treatment?

As disclosed in the notes, Palfinger classifies major renovations and value-enhancing modifications as capital expenditures. These replacement investments and value-enhancing investments are capitalized and then depreciated as a part of

the enhanced or modified asset. The assets are depreciated over the new or original useful life. There are two alternatives to this accounting treatment. The first alternative is the substitution approach, which is appropriate if the carrying amount of the old asset is readily available. The cost of the old asset is then replaced with the cost of the new asset. The second alternative is to charge to accumulated depreciation. This option is used when the company does not improve the asset itself, but extends the useful life. This is not the case for Palfinger; therefore, the capitalization of the renovations and modifications is the correct approach.

The following information relates to Part G i through iv: *Use the information in the financial statement notes to analyze the activity in the "Property, plant and equipment" and "Accumulated depreciation and impairment" accounts for 2007. Determine the following amounts:*

PART G(i): The purchase of new property, plant and equipment in fiscal 2007.

€61,444 represents the cost of the purchase of new property, plant and equipment in fiscal 2007. This amount is the total cost of additions in 2007, less the cost of additions for prepayments and assets under construction.

PART G(ii): Government grants for new purchases of new property, plant and equipment in 2007. Explain what these grants are and why they are deducted from the property, plant, and equipment account.

Government grants would total €733 and are deducted from "Land and buildings" and "Plant and Machinery." Government grants may be given in the

form of assets and may be set up in one of two ways. The grant may be presented as deferred income, or in the case of Palfinger, deducted from the carrying amount of the asset. Through these government grants, Palfinger is physically receiving resources and assets, rather than a monetary grant.

PART G(iii): Depreciation expense for fiscal 2007.

The depreciation expense for fiscal 2007 is €12,557. This was calculated using the straight-line depreciation method, with regard to the useful life of each category of PPE, as disclosed in the notes and mentioned earlier in this report.

PART G(iv): The net book value of property, plant, and equipment that Palfinger disposed of in fiscal 2007.

The net book value of property, plant, and equipment that Palfinger disposed of in fiscal 2007 was €1,501. The net book value is calculated by subtracting the depreciation of disposals in 2007, €12,298, from the value of Disposals in 2007 at acquisition cost, €13,799.

PART H: The statement of cash flows (not presented) reports that Palfinger received proceeds on the sale of property, plant, and equipment amounting to €1,655 in fiscal 2007. Calculate the gain or loss that Palfinger incurred on this transaction. Hint: use the net book value you calculated in part g iv, above. Explain what this gain or loss represents in economic terms.

As the net book value of disposal of property, plant, and equipment is €1,501, Palfinger will incur a gain on sale of €154. In economic terms, a gain arises when a company sells or disposes of an asset at a price higher than the

current value of the asset. The proceeds of €1,655 is more than the book value of €1,501, therefore Palfinger will recognize a gain.

PART I: Consider the €10,673 added to "Other plant, fixtures, fittings, and equipment" during fiscal 2007. Assume that these net assets have an expected useful life of five years and a salvage value of €1,273. Prepare a table showing the depreciation expense and net book value of this equipment over its expected life assuming that Palfinger recorded a full year of depreciation in 2007 and the company uses:

a) **Straight-line depreciation.**

The depreciation expense using the straight-line method is calculated by subtracting the salvage value of €1,273 from the cost of €10,673, divided by the five-year useful life.

Figure 5-1: Straight-Line Depreciation Table

	Year 0	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Depreciation	--	1,880	1,880	1,880	1,880	1,880
Book Value	10,673	8,793	6,913	5,033	3,153	1,273

b) **Double-declining-balance depreciation.**

The depreciation expense calculation using the double-declining-balance method is more complex than with the straight-line method. First, the depreciable base must be found by taking the salvage value of €1,273 and subtracting that from the purchase price of €10,673, which amounts to a depreciable base of €9,400. After dividing the base by the five-year useful

life, depreciation expense is found to be €1,880. The straight-line depreciation rate is then calculated by dividing the depreciation expense of €1,880 by the depreciable base of €9,400. This rate is equal to 20%. As this is the double-declining depreciation method, the depreciation rate is multiplied by two for a depreciation rate of 40%. This rate is multiplied by the new book value calculated each year.

Figure 5-2: Double-Declining-Balance Depreciation Table

	Year 0	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Depreciation	--	4,269	2,562	1,537	922	110
Book Value	10,673	6,404	3,842	2,305	1,383	1,273

PART J: Assume that the equipment from part *i.* was sold on the first day of fiscal 2008 for proceeds of €7,500. Assume that Palfinger's accounting policy is to take no depreciation in the year of sale.

a) **Calculate any gain or loss on this transaction assuming that the company used straight-line depreciation. What is the total income statement impact of the equipment for the two years that Palfinger owned it? Consider the gain or loss on disposal as well as the total depreciation recorded on the equipment.**

Using the straight-line method, the net book value at the end of year one is €8,793. The net book value less the net proceeds of €7,500, amounts to a disposal loss of €1,293. The total income statement impact of the equipment for the two years that Palfinger owned it would be the initial disposal loss of

€1,293 plus another year of depreciation, €1,880, for a total impact on the income statement of €3,173.

b) Calculate any gain or loss on this transaction assuming the company used double-declining-balance depreciation. What is the total income statement impact of this equipment for the two years that Palfinger owned them? Consider the gain or loss on disposal as well as the total depreciation recorded on the equipment.

Using the double-declining-balance method, the net book value at the end of year one is €6,404. The net book value subtracted by proceeds of €7,500, give a total disposal gain of €1,096. Once this number is subtracted from the depreciation expense of €4,269, the impact recognized is €3,173.

c) Compare the total two-year income statement impact of the equipment under the two depreciation policies. Comment on the difference.

The total two-year income statement impact of the equipment under the two depreciation policies is exactly the same, €3,173. Although two different methods were used to calculate this number, they value the depreciation at the same amount.

CASE STUDY 6: Volvo Group

CASE STUDY 6: Volvo Group

Volvo Group, headquartered in Sweden, is a supplier of commercial vehicles, construction equipment, engines, drive systems, and aircraft engine components. To remain ahead of their competition, Volvo invests approximately 13 billion Swedish Krona in research and development (R&D). Volvo focuses on technological advances to reduce impact on the environment as well as a variety of other breakthroughs. This case is centered around Volvo's research and development activities and how they are reflected on various financial statements.

Prior to this case, I had little knowledge of R&D and did not know how it was to be capitalized, expensed, and amortized. This case goes into depth on R&D and allowed me to learn the differing ways to report expenses related to R&D. After reviewing Volvo Group, I have a greater understanding of research and development and the many ways it can be reported. I learned that research and development is a large aspect in continuing innovation of a company that will lead to increased profits and a stronger future for a company. According to IFRS, R&D costs may be capitalized and amortized over the applicable periods of use. Not all of the cost is incurred as an expense or "used up" in a given period under the IFRS method in contrast to the GAAP method, which may be beneficial in accurately reporting the value of a company. I now understand more about the differences between United States GAAP and IFRS related to capitalization and expenditures of certain costs. In the future, I can use this knowledge to help with audits, or to aid others who may be unsure of how to report their research and development costs.

PART A: The 2009 income statement shows research and development expenses of SEK 13,193 (millions of Swedish Krona). What types of costs are likely included in these amounts?

As Volvo Group focuses on being at the forefront of technological advances, research and development is a large part of their expenses. A variety of costs may be included in these amounts to accomplish these breakthroughs. Types of costs likely included in these R&D amounts are materials, equipment, facilities, personnel, purchased intangibles, contract services, and indirect costs.

PART B: Volvo Group follows IAS 38- *Intangible Assets,* to account for its research and development expenditures (see IAS 38 excerpts at the end of this case). As such, the company capitalizes certain R&D costs and expenses others. What factors does Volvo Group consider as it decides which R&D costs to capitalize and which to expense?

When making the decision on which R&D costs to capitalize and which to expense, Volvo Group considers many factors. These factors include whether there is a high degree of certainty that expenditures will result in future financial benefits, and if it is possible to prove the technical functionality of a new product before its development is reported as an asset. To be reported as an asset and capitalized, these conditions must be met. In addition, expenditures may only be capitalized during the industrialization phase of a product development project.

PART C: The R&D costs that Volvo Group capitalizes each period (labeled Product and software development costs) are amortized in subsequent periods, similar to other capital assets such as property and equipment. Notes to Volvo's financial statements disclose that capitalized product and software development costs are amortized over three to eight years. What factors would the company consider in determining the amortization period for particular costs?

In determination of the amortization period for particular costs, the company would consider the estimated amount of time the costs would provide financial benefits to the company, otherwise known as its useful life. The costs may be applied to multiple accounting periods as the costs are utilized for the research and development purpose.

PART D: Under U.S. GAAP, companies must expense all R&D costs. In your opinion, which accounting principle (IFRS or U.S. GAAP) provides financial statements that better reflect costs and benefits of periodic R&D spending?

In my opinion, IFRS does a better job of reflecting costs and benefits of periodic R&D spending, as it gives the company the option to capitalize the costs as an asset. In doing so, the benefit is recognized more clearly than if it was purely charged as an expense. R&D costs increase the value of the company's assets within IFRS, as they are beneficial in furthering company innovation. Although there is a benefit, only 3-5% of projects result in revenue. Therefore, the U.S. GAAP procedure of expensing R&D costs is just as acceptable.

PART E(i): What is the amount of the capitalized product and software development costs, net of accumulated amortization at the end of fiscal 2009? Which line item on Volvo Group's balance sheet reports this intangible asset?

At the end of fiscal 2009, the amount of capitalized product and software development costs net of accumulated amortization at the end of fiscal 2009 is SEK 11,409. The line item on Volvo Group's balance sheet that reports this intangible asset is Intangible Assets; however, this line item includes other intangibles as well. These other items include patents, trademarks, and Goodwill.

PART E(ii): Create a T-account for the intangible asset "Product and software development," net of accumulated amortization. Enter the opening and ending balances for fiscal 2009. Show entries in the T-account that record the 2009 capitalization (capital expenditures) and amortization. To simplify the analysis, group all other account activity during the year and report the net impact as one entry in the T-account.

Figure 6-1: Product and Software Development T-Account

Product and Software Development (in SEK millions)

Beginning Balance 12,381	3,126 Amortization
Amounts Capitalized 2,602	448 Adjustment
End Balance 11,409	

PART F(i): Complete the table below for Volvo's Product and software development intangible asset.

Figure 6-2: Product and Software Development Intangible Asset Table

(in SEK millions)	**2007**	**2008**	**2009**
1) Product and software development costs capitalized during the year.	2,057	2,150	2,602
2) Total R&D expense on the income statement	11,059	14,348	13,193
3) Amortization of previously capitalized costs (included in R&D expense)	2,357	2,864	3,126
4) Total R&D costs incurred during the year = 1 + 2 -3	10,759	13,634	12,669

PART F(ii): What proportion of Total R&D costs incurred did Volvo Group capitalize (as product and software development intangible asset) in each of the three years?

To calculate the portion, product and software development costs capitalized during the year are divided by total R&D costs incurred during the year. The proportions for 2007, 2008, and 2009 were 19.12%, 15.77%, and 20.54%, respectively.

PART G: Assume that you work as a financial analyst for Volvo Group and would like to compare Volvo's research and development expenditures to a U.S. competitor, Navistar International Corporation. Navistar follows U.S. GAAP that requires that all research and development costs be expensed in the year they are incurred. You gather the following information for Navistar for fiscal year end October 31, 2007 through 2009.

Figure 6-3: Navistar Research and Development Comparative Table

(in US $ millions)	**2007**	**2008**	**2009**
Total R&D costs incurred during the year, expensed on the income statement	375	384	433
Net sales, manufactured products	11,910	14,399	11,300
Total assets	11,448	10,390	10,028
Operating income before tax	(73)	191	359

PART G(i): Use the information from Volvo's eleven-year summary to complete the following table:

Figure 6-4: Volvo Net Sales and Total Assets Table

(in SEK millions)	**2007**	**2008**	**2009**
Net sales, industrial operations	285,405	303,667	218,361
Total assets, from balance sheet	321,647	372,419	332,265

PART G(ii): Calculate the proportion of total research and development costs incurred to net sales from operations (called, net sales from manufactured products, for Navistar) for both firms. How does the proportion compare between the two companies?

In 2007, Volvo had R&D costs of 11,059 and net sales from operations of 285,405 (in SEK millions), which gives a R&D cost to net sales proportion of 3.87%. In 2008, with R&D costs of 14,348 and net sales of 303,667 (in SEK millions), the proportion is 4.73%. In 2009, R&D costs equal 13,193 and net sales are 218,361 (in SEK millions), therefore, the proportion is 6.04%. Navistar's proportions for 2007 through 2009 are 3.15%, 2.66%, and 3.83%, respectively. Comparing the two companies' side by side it is clear that Volvo has a higher proportion of total research and development costs incurred to net sales from operations than Navistar. While Navistar has a proportion that remains fairly consistent, Volvo's proportion seems to be growing over the years. In 2009, Volvo's proportion is almost twice that of Navistar's, perhaps due to the need for more research and development for Volvo to stay at the forefront of new technological breakthroughs.

CASE STUDY 7: Hadoop Data Analytics Tool

CASE STUDY 7: Data Analytics—Hadoop

Hadoop is a data and analytics tool that quickly stores and processes large amounts of data. Originally, the tool was created as both a web crawler and a processing system. It has since been reduced to a computing and processing system. This tool, while still relatively new to the accounting world, is able to make the work of public accounting professionals much more efficient and effective. Whether it is running audits or tax planning, Hadoop can help. Data and analytics tools are exceptionally important in this age, as the public accounting field is integrating data and analytics even further into the services provided.

As Hadoop is fairly high-level, I have not had a chance to put it to use or learn much about it. Through this case, I was able to gain knowledge about the many uses of Hadoop and the background of it. I learned that I would be able to use this tool not only when working with a client on an audit engagement, but also in my own life as I begin the tax planning process. In addition, I learned that the tool could be used to quickly and efficiently collect data that is most relevant to the purpose of the search. As extremely large amounts of data is often provided in a given search, the tool can be used to decrease the amount of tedious work done by combing through data to determine what is relevant. This data and analytics case was extremely beneficial to me, as I had no prior knowledge about Hadoop, but I am looking forward to using the tool in the future.

PART ONE: Identify the history and purpose of this tool and describe, in general, how it is used to make business decisions. Be specific about what kind of technology platform it uses, etc. and other resources that need to be in place to fully utilize the functionality of the tool.

Originally, the founders of Hadoop started by creating another software called "Nutch" back in 2002. The goal of this software was to return search results on the web much quicker through faster data distribution and calculations. After founder Doug Cutting joined the Yahoo team, Nutch was divided into two parts: a web crawler portion, as well as a computing and processing portion. This computing and processing portion became Hadoop, which was released in 2008 as an open-source project. The Apache Software Foundation now manages the framework and its other data technologies.

Hadoop has a variety of functions and purposes. The original concept of Hadoop was essentially to store and process distributed data automatically. Hadoop can store and process data of large volumes at high speed. The framework is completely free and works on hardware that is affordable and easily attainable. When making business decisions, Hadoop is an excellent tool as it allows users to store any amount of unstructured data and decide later how it will be used. This is unlike other traditional databases. In addition, users can add nodes to handle even more data with little work involved.

PART TWO: What special skills are needed to use this tool to aid in business decision-making? How might a student like yourself gain those skills?

Hadoop requires developers to understand MapReduce programming. Therefore, the main special skill needed is the ability to program with MapReduce, which requires Java skills. Other tools use relational (SQL) technology, which makes Hadoop more difficult to use. A basic knowledge of operating systems and hardware is required for operating this system. In order to gain these skills, a student such as myself could take courses involving MapReduce and SQL programming, as well as become proficient with Java through consistent use.

PART THREE: How, specifically, would you use the tool in the following business settings? Be sure to describe what kinds of data your tool would use for each scenario.

a. Auditing

In auditing, Hadoop can be a great tool. To ensure that security controls in place are working correctly, the auditor can use a log through Hadoop. The HDFS Audit Log records the actions of an application and allows the auditor to essentially look back at a specific moment in time to review transactions and other user actions. This helps auditors exponentially as it can find clear evidence on whether the General Ledger is misstated or not. Most software deletes old log files, however, Hadoop does not. Therefore, an auditor is able to view archives if an issue resurfaces. If an auditor is looking for fraud, Sentry Audit Logs allow the auditor to view any changes to user access and administrative operations.

b. Tax Planning

There are a variety of scenarios in which Hadoop can be used as a tax planning tool. When calculating tax liabilities for clients, Hadoop can easily gather data and compute the tax liability. This will shorten the time it takes for tax professionals when gathering important data to begin the tax planning process. Calculating the client's risk tolerance level is another important step in the tax planning process. Hadoop can provide an accurate risk assessment, which in turn will help the client make appropriate decisions when investing in years following. As the tax professional looks for ways to save the client money, Hadoop allows the user to input data about the client and reveal where the client can save. This includes education-related tax credits or avoiding additional taxes from early IRA withdrawals and more.

c. Financial Statement Analysis/Valuation/Advisory

Analytics are becoming extremely important in the world of Accounting and Finance. Hadoop can be used to run risk assessments and valuations. Through gathering big data and sorting it, Hadoop can analyze risks associated with a particular company through forming algorithms to detect patterns of risk. This can be of huge benefit to those looking to invest or expand. When companies are looking to improve their bottom line, Hadoop can help. Hadoop allows users to store, analyze, and share data from multiple sources to detect abnormalities in output. After information from various branches is collected, it is scanned for abnormalities and immediately sent in order to save time and improve operational

margins. In addition, Hadoop can be used to create trading algorithms, so profits will be generated quickly and efficiently, thus further improving the bottom line.

PART FOUR: Why should your team invest in the acquisition of and training in this tool? How will the tool impact the staffing and scope of your future engagement?

Our team should invest in the acquisition of and training in Hadoop due to its proven effectiveness and success in the accounting field. Hadoop would be a valuable tool to the team as it has many important benefits. First, it is able to store and process large amounts of data extremely quickly due to its strong computing power. This ability would greatly improve the team's skills in data and analytics, especially in an age of growing data volumes. Unlike other databases, Hadoop is very flexible. It is able to store and process unstructured data, so data may be stored and used later. In addition, Hadoop is low cost. The framework is completely free and requires basic hardware; however, adding nodes to handle more data can grow the system. The investment in Hadoop is little, and training can be very beneficial to the team as it is difficult to find entry-level programmers with the skills required. This would give the team a competitive advantage.

The tool would ultimately impact the staffing and scope of future engagements, as it will increase productivity and efficiency. Hadoop will allow auditors to better verify transactions through the use of audit logs to ensure recorded transactions are accurate. This tool will widen the array of verifiable evidence for audit engagement. Staff will be able to run risk assessments through Hadoop, providing a more accurate assessment in less time. Once the team is

thoroughly trained on how to use Hadoop, clients will be satisfied with the staff and framework.

As the public accounting world further integrates data and analytics into their work, Hadoop would put the firm at an advantage. With the many beneficial characteristics of Hadoop, it would improve the quality of work as well as client satisfaction. Thus, I advise the team to invest in this tool, along with the appropriate training.

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CASE STUDY 8: Rite Aid Corporation

CASE STUDY 8: Rite Aid Corporation

Rite Aid, the third largest retail pharmacy in the United States, is the focus of this case. The company offers a variety of products, with 68% of total sales being from filling prescriptions. To finance their thriving company, Rite Aid issues both secured and unsecured debt, with a differing types and interest rates. The purpose of this case is to understand the accounting requirements for long-term debt, as well as the premiums and discounts associated with the debt.

This case allowed me to understand how long-term debt is accounted for. In addition, it helped me to learn the difference between different types of debt such as secured and unsecured, as well as senior notes and other types of notes. I learned that senior notes are paid first in the event of liquidation, while unsecured notes are paid last. Collateral in the form of property or other assets may be used to "secure" or guarantee the repayment of a debt. Additionally, I learned that interest payments may be calculated using either a fixed rate over the life of the debt or a variable rate, known as the effective interest rate which increases the total amount of interest expense over time. In the future, this knowledge will help me as I am trying to calculate interest, face vales, and more in regard to long-term debt. I now know how to back in to numbers to find what I need, whether it is the discount or the effective interest rate. This will be of great help to me, especially if I am auditing a company.

PART A: Consider the various types of debt described in note 11, Indebtedness and Credit Agreement.

PART A(i): Explain the difference between Rite Aid's secured and unsecured debt. Why does Rite Aid distinguish between these two types of debt?

Secured debt is backed by company collateral, whereas unsecured debt is not. Rite Aid distinguishes between these two types of debt as secured debt is tied to an asset used as collateral, therefore it is important for investors to know how debts are prioritized. In addition, it is important to know how much in assets is on the line in event of bankruptcy or if Rite Aid is unable to pay off the debt.

PART A(ii): What does it mean for debt to be "guaranteed"? According to note 11, who has provided the guarantee for some of Rite Aid's unsecured debt?

If a debt is guaranteed, the lender promises to take over the debt if Rite Aid cannot repay. A large amount of Rite Aid's wholly owned subsidiaries are guarantors for both unsecured and secured debt, therefore the subsidiaries guarantee the obligations. If Rite Aid defaults on the debt, the subsidiaries are expected to acquire and pay the debt obligations.

PART A(iii): What is meant by the terms "senior," "fixed-rate," and "convertible"?

The term "senior" in regards to debt means that the notes issued take priority over other debt. Senior debt must be paid first in the event of liquidation. Fixed-rate means that the debt has a predetermined interest rate that does not

change over the life of the debt. Convertible debt is a security that can be converted into another security, such as common or preferred stock.

PART A(iv): Speculate as to why Rite Aid has many different types of debt with a range of interest rates.

Rite Aid has many different types of debt with a range of interest rates potentially due to differing needs for financing. In addition, the interest rates may vary due to differing creditors and amount of revolver availability, based on a borrowing base consisting of accounts receivable and other current assets. Diversity of debt aids in the ability of the company to repay debts as they come due.

PART B: Consider note 11, Indebtedness and Credit Agreement. How much total debt does Rite Aid have at February 27, 2010? How much of this is due within the coming fiscal year? Reconcile the total debt reported in note 11 with what Rite Aid reports on its balance sheet.

At February 27, 2010, Rite Aid has $6,370,899 in total debt. Within the coming fiscal year, $51,502 of long-term debt and lease financial obligations is currently maturing. This portion of current maturities is the difference between the total debt reported in note 11 and what is reported on the balance sheet.

PART C: Consider the 7.5% senior secured notes due March 2017.

PART C(i): What is the face value (i.e. the principal) of these notes? How do you know?

The face value of these notes is $500,000. This is known because the note was issued at par value and does not show any unamortized discount.

PART C(ii): Prepare the journal entry that Rite Aid must have made when these notes were issued.

The entry to record issuance of the 7.5% notes is as follows:

Cash	500,000	
Notes Payable		500,000

This entry increases assets and increases liabilities.

PART C(iii): Prepare the annual interest expense journal entry. Note that the interest paid on a note during the year equals the face value of the note times the stated rate (i.e., coupon rate) of the note.

The journal entry to record annual interest expense is as follows:

Interest Expense	37,500	
Interest Payable		37,500

This entry increases liabilities and decreases net income, which also decreases equity.

PART D: Consider the 9.375% senior notes due December 2015. Assume that interest is paid annually.

PART D(i): What is the face value (or principal) of these notes? What is the carrying value (net book value) of these notes at February 27, 2010? Why do the two values differ?

The face value of the 9.375% senior notes is $410,000. The carrying value is at February 27, 2010 is $405,951. This is found by subtracting the face value, $410,000, by the Unamortized Discount of $4,039. These values differ, as the carrying value is equal to the face value less unamortized discount.

PART D(ii): How much interest did Rite Aid pay on these notes during the fiscal 2009?

During the fiscal 2009, Rite Aid paid approximately $38,438 in interest. Interest is calculated by multiplying the principal, $410,000, by the stated rate of 9.375%.

PART D(iii): Determine the total amount of interest expense recorded by Rite Aid on these notes for the year ended February 27, 2010. Note that there is a cash and a noncash portion to interest expense on these notes because they were issued at a discount. The noncash portion of interest expense is the amortization of the discount during the year (that is, the amount by which the discount decreased during the year).

The total amount of interest expense recorded by Rite Aid for year ended February 27, 2010 was $39,143. This amount includes the cash payment of $38,438 as well as amortization of the discount on note payable of $705.

PART D(iv): Prepare the journal entry to record interest expense on these notes for fiscal 2009. Consider both the cash and discount (noncash) portions of the interest expense from part iii above.

The journal entry to record interest expense is as follows:

Interest Expense	39143	
Discount on Notes Payable		705
Cash		38438

This entry decreases assets, decreases equity, and decreases net income.

PART D(v): Compute the total rate of interest recorded for fiscal 2009 on these notes.

The total rate of interest recorded is 9.659%. This can be found by dividing the interest expense by the beginning of the period carrying value.

PART E: Consider the 9.75% notes due June 2016. Assume that Rite Aid issued these notes on June 30, 2009 and that the company pays interest on June 30th of each year.

PART E(i): According to note 11, the proceeds of the notes at the time of issue were 98.2% of the face value of the notes. Prepare the journal entry that Rite Aid must have made when these notes were issued.

The journal entry to record issuance of the 9.75% notes is as follows:

Cash	402620	
Discount on Notes Payable	7380	
Notes Payable		410000

The debit to cash is $402,620 due to the notes being issued at 98.2%. This entry increases assets and increases liabilities.

PART E(ii): At what effective annual rate of interest were these notes issued?

The effective annual rate of interest for these notes is 10.1212% as the present value of the note discounted 7 periods is $402,620.

PART E(iii): Assume that Rite Aid uses the effective interest rate method to account for this debt. Use the table that follows to prepare an amortization schedule for these notes. Use the last column to verify that each year's interest expense reflects the same interest rate even though the expense changes. Note: Guidance follows the table.

Figure 8-1: Rite Aid Bond Amortization Table

Date	Interest Payment	Interest Expense	Bond Discount Amortization	Net Book Value of Debt	Effective Interest Rate
June 30, 2009	--	--	--	$402, 620	10.1212%
June 30, 2010	$39,975	$40,750	$775	403,395	10.1212%
June 30, 2011	39,975	40,828	853	404,248	10.1212%
June 30, 2012	39,975	40,915	940	405,188	10.1212%
June 30, 2013	39,975	41,010	1,035	406,223	10.1212%
June 30, 2014	39,975	41,115	1,140	407,363	10.1212%
June 30, 2015	39,975	41,230	1,255	408,618	10.1212%
June 30, 2016	39,975	41,357	1,382	410,000	10.1212%

June 30, 2009 Net Book Value of Debt is the initial proceeds of the bond issuance, net of costs. The face value of this debt is $410,000; the discount is $7,380; the coupon rate is 9.75% and the effective rate (including fees) is 10.1212%.

Interest Payment is the face value of the bond times the coupon rate of the bond. Interest Expense equals opening book value of the debt times the effective

interest rate. The difference between the interest payment and interest expense is the amortization of the bond discount. This is equivalent to saying that interest expense equals the interest paid plus the amortization of the bond discount. Amortizing the discount increases the net book value of the bond each year.

PART E(iv): Based on the above information, prepare the journal entry that Rite Aid would have recorded February 27, 2010, to accrue interest expense on these notes.

The entry recorded on February 27, 2010 to accrue interest expense is as follows:

Interest Expense	27167	
Discount on Notes Payable		517
Notes Payable		26650

As the interest was accrued through the end of February, only 8 months of interest was recorded for these notes. This entry increases liabilities and decreases net income, thus decreasing equity.

PART E(v): Based on your answer to part iv., what would be the net book value of the notes at February 27, 2010?

At February 27, 2010, the net book value of the notes is $403,137, calculated by adding the discount amortization of $517 to the 2009 carrying value of $402,620.

CASE STUDY 9: Merck & Co., Inc.

CASE STUDY 9: Merck & Co., Inc.

Merck & Co., Inc. is a pharmaceutical company with almost 60,000 employees worldwide. A portion of the company is actively engaged in research activities. The purpose of this case is to look at various equity accounts such as Common Stock and Treasury Stock. With over 2 billion outstanding shares in 2007, Merck & Co. is a great example of a company with a large amount of Shareholders' Equity. The amount of Shareholders' Equity relates to the amount of claims shareholders have on the assets of a company.

From this case I learned a great deal about stock repurchases and how shares of stock are accounted for. Stock may be repurchased by a company to be reported as treasury stock. Shares of stock are accounted for by the number of shares outstanding, though there likely is a greater number of shares authorized and issued. Furthermore, I learned how to calculate total market capitalization, which refers to the total dollar market value of shares of stock outstanding. In the future, this knowledge will help me to understand how common stock and treasury stock is accounted for, as well as the various calculations required to find dividends paid and declared, total market capitalization, shares outstanding, and more. This knowledge will be of use to me as an auditor or as a potential investor.

PART A: Consider Merck's common shares.

PART A(i): How many common shares is Merck authorized to issue?

Merck is authorized to issue 5.4 billion shares of common stock, both voting and non-voting. Merck may not issue all of these shares, but this is the limit on the number of shares that may be issued.

PART A(ii): How many common shares has Merck actually issued at December 31, 2007?

As of December 31, 2007, Merck has issued 2,983,508,675 shares of common stock. Therefore, the shares have been sold and may be outstanding at fiscal year-end.

PART A(iii): Reconcile the number of shares issued at December 31, 2007, to the dollar value of common stock reported on the balance sheet.

The dollar value of common stock on the balance sheet at the end of 2007 was $29.8 million; therefore, the par value per share of the issued shares is one cent. The par value is the nominal value of one share of stock.

PART A(iv): How many common shares are held in treasury at December 31, 2007?

There are 811,005,791 common shares held in treasury at the end of 2007. Treasury stock is stock that has been reacquired by the company, Merck & Co.

PART A(v): How many common shares are outstanding at December 31, 2007?

There are 2,172,502,884 common shares outstanding at December 31, 2007. Shares of common stock that have been purchased by a shareholder and not sold are considered outstanding shares.

PART A(vi): At December 31, 2007, Merck's stock price closed at $57.61 per share. Calculate the total market capitalization of Merck on that day.

Total market capitalization can be found by multiplying the number of shares outstanding (2,172.5 million) by market price per share ($57.61). Total market capitalization of Merck on December 31, 2007 was approximately $125.16 billion.

PART B: Why do companies pay dividends on their common or ordinary shares? What normally happens to a company's share price when dividends are paid?

Companies pay dividends on their common shares to encourage investors to buy company stock. Dividends are a return of capital to shareholders; therefore, dividend payments are attractive to investors. When dividends are paid, company share price goes down by the same amount of the dividend. The company value decreases by amount of dividend payout.

PART C: In general, why do companies repurchase their own shares?

Companies generally repurchase their own shares reduce the overall cost of capital or to pay off investors. It will reduce the number of outstanding shares in the market, and will potentially improve ratios and consolidate ownership.

PART D: Consider Merck's statement of cash flow and statement of retained earnings. Prepare a single journal entry that summarizes Merck's common dividend activity for 2007.

The journal entry to summarize common dividend activity for 2007 is as follows:

Retained Earnings	3310.7m	
Dividends Payable		3.4m
Cash		3307.3m

PART E: During 2007, Merck repurchased a number of its own common shares on the open market.

PART E(i): Describe the method Merck uses to account for its treasury stock transactions.

Merck uses the cost method to account for treasury stock transactions. The cost method accounts for treasury stock based on the amount paid to reacquire the stock.

PART E(ii): Refer to note 11 to Merck's financial statements. How many shares did Merck repurchase on the open market during 2007?

During 2007, Merck repurchased 26.5m shares of common stock. These shares of stock are accounted for as treasury stock. Treasury stock may be resold to external investors in the future.

PART E(iii): How much did Merck pay, in total and per share, on average, to buy back its stock during 2007? What type of cash flow does this represent?

During 2007, Merck paid $1,429.7m to repurchase its stock. This is represented as a decrease in financing activities on the Statement of Cash Flows.

PART E(iv): Why doesn't Merck disclose its treasury stock as an asset?

Treasury stock is not listed as an asset because it is not an asset. Treasury stock is a contra-equity account, rather than a resource with future value.

PART F: Determine the missing amounts and calculate the ratios in the tables below. For comparability, use dividends paid for both companies rather than dividends declared. Use the number of shares outstanding at year end for per-share calculations. What differences do you observe in Merck's dividend-related ratios across the two years? What differences do you observe in the two companies' dividend-related ratios?

Figure 9-1: Merck & Co. Financial Information

	Merck ($)	
(in millions)	**2007**	**2006**
Dividends paid	$3,310.7	$3,318.7
Shares outstanding	2,172.5	2,167.8
Net income	$3,275.4	$4,433.8
Total assets	$48,350.7	$44,569.8
Operating cash flows	$6,999.2	$6,765.2
Year-end stock price	$57.61	$41.94

Merck & Co.'s dividends paid and net income decreased in 2007. Shares outstanding, total assets, operating cash flows, and year-end stock price increased in 2007.

Figure 9-2: Merck & Co. Dividend Ratios

	Merck (S)	
	2007	**2006**
Dividends per share	$1.52	$1.53
Dividend yield (dividends per share to stock price)	2.64%	3.65%
Dividend payout (dividends to net income)	1.01	.75
Dividends to total assets	6.84%	7.45%
Dividends to operating cash flows	47.25%	49.11%

Only Merck & Co.'s dividend payout increased in 2007. All other dividend-related ratios and per share information decreased from 2006 to 2007.

CASE STUDY 10: State Street Corporation

CASE STUDY 10: State Street Corporation

This case centers on State Street Corporation and its Marketable Securities. State Street is a financial holding company headquartered in Boston. State Street's operations include investment services and management. The purpose of this case is to look into State Street's securities and the related accounting. The case goes into depth on various types of securities such as held-to-maturity, available-for-sale, and trading securities, considering fair market value and amortized cost.

From this case I learned how to account for different securities and the ways in which they are adjusted to fair market value. The accounting for each type of security is different, so I learned the standards for each type. I learned that only available-for-sale and trading securities may be adjusted to fair market value. Held-to-maturity securities must always be reported at historical cost, and they may only be debt securities with a specified maturity date. In addition, I learned that increases and decreases in fair value are considered unrealized gains or losses and are not considered realized until sale of the security. I was able to back into the account balances listed on the financial statements to understand further how adjustments to fair market value affect the securities. I will apply this new knowledge as I audit clients with marketable securities, especially clients in the financial service industry.

PART A: Consider trading securities. Note that financial institutions such as State Street typically call these securities "Trading account assets."

PART A(i): In general, what are trading securities?

Trading securities are short-term securities that a company purchases with plans on selling within less than a year. Trading securities can be investments in either debt or equity securities.

PART A(ii): How would a company record $1 of dividends or interest received from trading securities?

To record $1 of dividends, the entry would be a debit to Cash and a credit to Dividend Revenue. To record interest, the entry would be a debit to Interest Receivable or Cash and a credit to Interest Revenue.

PART A(iii): If the market value of trading securities increased by $1 during the reporting period, what journal entry would the company record?

To record a $1 increase in market value, the journal entry would be as follows:

Fair Value Adjustment- Trading Securities	1	
Unrealized Holding Gain- Income		1

PART B: Consider securities available-for-sale. Note that State Street calls these, "Investment securities available for sale."

PART B(i): In general, what are securities available-for-sale?

Available-for-sale securities can be investments in debt or equity securities. These types of securities are purchased with the intent of selling it before the maturity date.

PART B(ii): How would a company record $1 of dividends or interest received from securities available-for-sale?

To record $1 of dividends, the entry would be a debit to Cash and a credit to Dividend Revenue. To record interest, the entry would be a debit to Interest Receivable or Cash and a credit to Interest Revenue.

PART B(iii): If the market value of securities available-for-sale increased by $1 during the reporting period, what journal entry would the company record?

To adjust the available-for-sale securities to fair market value, the entry would be as follows:

Fair Value Adjustment- Available for Sale Securities	1	
Unrealized Holding Gain- Equity		1

PART C: Consider securities held-to-maturity. Note that State Street calls these, "Investment securities held to maturity."

PART C(i): In general, what are these securities? Why are equity securities never classified as held-to-maturity?

Held-to-maturity securities are debt securities that a company has the ability and intent to hold until maturity. Equity securities cannot be held-to-maturity as stocks do not have a maturity date. Only debt securities may be recorded as held-to-maturity to be disposed of on the maturity date.

PART C(ii): If the market value of securities held-to-maturity increased by $1 during the reporting period, what journal entry would the company record?

If the market value of a held-to-maturity security increases, there would be no entry to adjust to fair value. Securities that are held-to-maturity to are recorded at amortized cost, not fair value. Only trading and available-for-sale securities may be adjusted to fair value, creating an Unrealized Gain or Loss.

PART D: Consider the "Trading account assets" on State Street's balance sheet.

PART D(i): What is the balance in this account on December 31, 2012? What is the market value of these securities on that date?

The balance in the trading account assets at December 31, 2012 is $637 million. This is also the market value of these securities, meaning that is how much the trading assets could be sold for on the open market.

PART D(ii): Assume that the 2012 unadjusted trial balance for trading account assets was $552 million. What adjusting journal entry would State Street make to adjust this account to market value? Ignore any income tax effects for this part.

The entry to adjust the trading account assets to market value is as follows (in millions):

Fair Value Adjustment- Trading Account Assets	85	
Unrealized Holding Gain- Income		85

PART E: Consider the balance sheet account "Investment securities held to maturity" and the related disclosures in Note 4.

PART E(i): What is the 2012 year-end balance in this account?

The 2012 year-end balance in the held-to-maturity account is $11,379 million. The securities are recorded at the original cost paid to acquire the securities less any amortization.

PART E(ii): What is the market value of State Street's investment securities held to maturity?

The market value of the held-to-maturity securities at 2012 is $11,661 million. The market value is what the securities could be sold for on the open market at that date, though no adjustment is made to reflect increase or decrease in market value.

PART E(iii): What is the amortized cost of these securities? What does "amortized cost" represent? How does amortized cost compare to the original cost of the securities?

The amortized cost of the held-to-maturity securities is $11,379 million. Amortized cost represents the carrying value of the security, which is purchase price less amortized discount or premium. Premiums and discounts are amortized over the years until the security reaches par value. The amortized cost is less than the original cost of the securities if purchased at a premium. If purchased at a discount, the amortized cost is more than the original cost.

PART E(iv): What does the difference between the market value and the amortized cost represent? What does the difference suggest about how the average market rate of interest on held-to-maturity securities has changed since the purchase of the securities held by State Street?

The difference between the market value and amortized cost represents an unrealized holding gain or loss incurred in the year. The difference suggests that the average market rate of interest has gone down since time of purchase. An unrealized holding gain or loss represents an increase or decrease in value that has yet to be realized through the sale of the security. Therefore, the increase or decrease is recognized as unrealized until the security is sold.

PART F: Consider the balance sheet account "Investment securities available for sale" and the related disclosures in Note 4.

PART F(i): What is the 2012 year-end balance in this account? What does this balance represent?

The 2012 year-end balance is $108,652 million. This balance represents amortized cost. The fair value balance at year end is $109,682 million.

PART F(ii): What is the amount of net unrealized gains or losses on the available-for-sale securities held by State Street at December 31, 2012? Be sure to note whether the amount is a net gain or loss.

The net unrealized gain on the available-for-sale securities at the end of 2012 is $1,119 million. This number was found by subtracting the 882 million-dollar unrealized holding loss from the 2,001 million-dollar unrealized holding gain.

PART F(iii): What was the amount of net realized gains (losses) from sales of available-for-sale securities for 2012? How would this amount impact State Street's statements of income and cash flows for 2012?

The amount of net realized gains from sales of available-for-sale securities for 2012 is $55 million. This was calculated by subtracting the realized loss of $46 million from the realized gain of $101 million. State Street's net income would be increased by the realized gain and reflected as a cash flow from investing activities.

PART G: State Street's statement of cash flow for 2012 (not included) shows the following line items in the "Investing Activities" section relating to available-for-sale securities (in millions):

Proceeds from sales of available-for-sale securities $ 5,399

Purchases of available-for-sale securities $60,812

PART G(i): Show the journal entry State Street made to record the purchase of available-for-sale securities for 2012.

The entry to purchase the available-for-sale securities in 2012 is as follows (in millions):

Investment in Available for Sale Securities	60812	
Cash		60812

PART G(ii): Show the journal entry State Street made to record the sale of available-for-sale securities for 2012. Note 13 (not included) reports that the available-for-sale securities sold during 2012 had "unrealized pre-tax gains of $67 million as of December 31, 2011." Hint: be sure to remove the current book-value of these securities in your entry.

The entry to record the sale of the available for sale securities in 2012 is as follows (in millions):

Cash	5399	
Unrealized Holding Gain	67	
Investment in Available for Sale Securities		5411
Realized Gain on Available for Sale Securities		55

PART G(iii): Use the information in part g. ii to determine the original cost of the available-for-sale securities sold during 2012.

The original cost of the available-for-sale securities sold during 2012 is $5,411 million. The cost was calculated with the following formula: Cash Proceeds (5399m) + Realized Holding Gain (55m) = Book Value (5344m) – Unrealized Holding Gain (67m) = Original Cost (5411m).

CASE STUDY 11: ZAGG, Inc.

CASE STUDY 11: ZAGG, Inc.

This case is centered on ZAGG, Inc. and how it accounts for deferred income taxes. ZAGG, "Zealous About Great Gadgets," is a market leader in mobile device accessories. With multiple patented products around the world, their product list is filled with various types of technology and accessories. In order to grow and expand their company, ZAGG acquired iFrogz in 2011. The objectives of this case is to understand concepts relating to deferred income tax accounting, income tax disclosures, deferred income tax assets and liabilities, differing tax rates, as well as deferred income tax asset valuation allowance accounts.

From this case I learned the difference between taxable income and book income, based upon different temporary and permanent tax differences. I became an expert in what temporary tax differences entail, including what gives rise to deferred income tax assets and liabilities. I learned how to calculate the effective tax rate, and analyze changes in financial statement accounts such as net deferred tax assets. In addition, I now understand why companies report both current and deferred income taxes under income tax expense on the financial statement, based on FASB Codification and GAAP. There are many differences in IRS code and GAAP; however, this case cleared up my questions regarding the two. I will use my knowledge learned from this case when I am analyzing a client's financial statements to ensure they accounted for deferred income taxes properly. From this case, readers will learn concepts relating to deferred income taxes and understand the related accounting.

PART A: Describe what is meant by the term book income? Which number in ZAGG's statement of operation captures this notion for fiscal 2012? Describe how a company's book income differs from its taxable income.

The term book income is the income based on the pre-tax financial income from the income statement. Book income is calculated primarily for financial reporting purposes, reported on an accrual basis. Book income is found through income statement items including revenues, expenses, and other gains and losses. On ZAGG's statement, the book income is listed as "Income before provision for income taxes," which is $23,898,000. The company's book income differs from its taxable income when there are items included in book income that are not included for tax purposes, such as items accounted for on an accrual basis rather than cash basis. Book income differs from taxable income primarily due to temporary and permanent tax differences, which may cause future taxable amounts or future deductible amounts.

PART B: In your own words, define the following terms:

a. Permanent tax differences

Permanent tax differences are items that are reported for financial reporting purposes, but not for tax purposes. These differences will never be included for tax purposes; therefore, the difference will never be taxed or deducted in the future. Examples of a permanent tax difference are interest on municipal bonds, fines, and proceeds of a life insurance policy of a key officer or employee. These permanent differences are tax exempt, therefore will never be included in taxable income.

b. Temporary tax differences

Temporary tax differences are differences that occur when an item is recognized in one period for tax purposes, but another for financial reporting purposes, and vice versa. Essentially, temporary tax differences occur when the timing is off for taxes and financial reporting. Temporary differences lead to future taxable amounts or future deductible amounts, called deferred tax liabilities or deferred tax assets, respectively. An example of a temporary difference leading to a future deductible amount is revenue received in advance; the revenue is recognized for tax purposes, but not yet for financial reporting purposes; therefore, the amount is tax deductible in future years. This is considered a deferred tax asset.

c. Statutory tax rate

The statutory tax rate is the tax rate mandated by law. For companies, income tax may differ by level of income, as well as by state. The statutory tax rate enacted is typically based on where the company is headquartered. Companies with operations outside of the United States will tax their income differently, as the foreign countries will have different tax rates than the United States.

d. Effective tax rate

The effective tax rate is the average rate at which the company's income is taxed. The effective tax rarely matches the statutory rate. To calculate the effective tax rate, divide the income tax expense by pre-tax financial income.

PART C: Explain in general terms why a company reports deferred income taxes as part of their total income tax expense. Why don't companies simply report their current tax bill as their income tax expense?

A company reports deferred income taxes as part of their total income tax expense in accordance with GAAP. The FASB Accounting Standards Codification 740 explains, in depth, why a company is required to report in such a way. All entities are required to disclose various amounts each reporting period to ensure that all information about unrecognized tax benefits is included, related to the entity's tax position. A tax position is the position in a tax return filed in previous years or the expected position in the future tax return. A position is used when calculating income tax assets or liabilities, whether current or deferred. Evaluations of components potentially subject to income taxes are considered tax positions. FASB recognizes tax position components to consider, which include the entity's activities, revenue allocation between activities that do and do not relate to the central purpose, as well as expense allocation.

The total of all deferred tax liabilities and assets, as well as the total valuation allowance are required to be disclosed. The components significant to income tax expense for continuing operations are required to be disclosed in either financial statements or notes, which include current tax expense and deferred tax expense. Other items required to be included in income tax expense or benefit are investment tax credits, government grants, benefits of operating loss carryforwards, and more. The amount reported for income tax expense may differ from the statutory rate, therefore it is important to disclose the current and

deferred components. Entities are also required to disclose total amounts of interest and penalties recognized, as they arise to permanent differences in pre-tax financial income and taxable income. In addition, tax positions in which unrecognized tax benefits will increase or decrease, if reasonably possible, within the next 12 months, based on the nature of uncertainty or likelihood that the event may occur within the next 12 months.

Deferred income taxes are included to reconcile the total amounts of unrecognized tax benefits at the beginning and end of the period, as well as the amount of unrecognized tax benefits that have the potential to affect the effective tax rate. The gross amounts of changes in unrecognized tax benefits must be reconciled for both current and prior periods. If deferred income taxes were not reported as part of income tax expense on the financial statements, it would possibly be difficult for investors and creditors to understand why the taxes currently expensed do not match up with the amount of income taxes payable. An important principle of GAAP is the full disclosure principle, which requires full disclosure of all necessary information to ensure financial statement users full understanding of the statements. Therefore, the Income Tax Expense item on the Income statement includes both current and deferred tax, following the full disclosure principle.

The current tax bill is based on the Internal Revenue Service code; however, income tax expense is in accordance with Generally Accepted Accounting Principles (GAAP). Companies do not report their current tax bill as income tax expense because some items may not be recognized as taxable until

later years, whereas some items may be deductible due to temporary differences. For example, if a company has a future deductible amount and/or a future taxable amount, it will cause the income tax expense to differ from the current tax bill. The current tax bill may include items that are not yet recognized as taxable under GAAP.

PART D: Explain what deferred income tax assets and deferred income tax liabilities represent. Give an example of a situation that would give rise to each of these items on the balance sheet.

Deferred income tax assets represent a future deductible amount, whereas deferred income tax liabilities represent a future taxable amount. These amounts arise due to temporary or permanent differences caused by revenue and expense recognition at different times for tax purposes. A deferred tax asset is an amount paid in taxes, but not yet recognized on financial statements. An example of a deferred tax asset is a sale with a warranty. The estimated future warranty expense will be recognized for tax purposes, causing the tax paid to be higher than recorded tax on the income statement as the warranty expense has not yet been incurred. Once the warranty expense has been incurred, the deferred tax asset created with the warranty expense will reduce the tax bill in that period. Therefore, a deferred tax asset is a future deductible amount.

As mentioned above, a future taxable amount is reflected as an income tax liability. An example of a temporary difference leading to a future taxable amount is depreciation recorded using differing methods for tax and financial reporting purposes. This is the most common source for deferred tax liabilities.

Often, accelerated depreciation is used for tax purposes and straight-line depreciation is used for financial reporting purposes. If the depreciation is higher for tax purposes than on the books, the temporary difference results in a deferred tax liability. In this case, a company's income is usually higher than its taxable income, so a deferred tax liability must be recognized to ensure the correct amount of tax is paid over time. As depreciation continues, the difference between the two methods becomes smaller and the deferred tax liability balance is eventually eliminated.

PART E: Explain what a deferred income tax valuation allowance is and when it should be recorded.

A deferred income tax valuation allowance account is created if some or all of the benefits from a company's deferred tax assets are more likely than not unrealizable. There must be a strong probability that a company will not realize a portion of the deferred tax asset, otherwise no valuation allowance account should be created. The valuation allowance is only created for a deferred tax asset and never for a deferred tax liability. It should be recorded when some or all of the expected benefits from a deferred tax asset or other income tax benefit such as a carryforward from an operating loss are likely not to be realized. The entry to do so would be as follows:

Income Tax Expense

Valuation Allowance for Deferred Tax Assets

PART F: Consider the information disclosed in Note 8 – Income Taxes to answer the following questions:

PART F(i): Using information in the first table in Note 8, show the journal entry that ZAGG recorded for the income tax provision in fiscal 2012?

In 2012, ZAGG reported Income Tax Provision of $9,393,000. The journal entry to record the income tax provision is as follows (in thousands):

Income Tax Expense	9,393	
Deferred Tax Asset, net	8,293	
Income Taxes Payable		17,686

PART F(ii): Using the information in the third table in Note 8, decompose the amount of "net deferred income taxes" recorded in income tax journal entry in part F(i). into its deferred income tax asset and deferred income tax liability components.

The amount of total net deferred income taxes is found by calculating the change in net deferred tax assets during the current period. For 2012, the balance for total deferred tax assets is $14,302,000 and the balance for total deferred tax liabilities is $794,000, therefore the net amount of deferred tax assets for 2012 is $13,508,000. The deferred tax liabilities balance for 2012 is found to be $291,000 less than 2011, whereas the deferred tax assets account is found to be $8,002,000 more than 2011. Therefore, the total change in net deferred income taxes is $8,293,000, which is the amount recorded in the income tax journal entry.

PART F(iii): The second table in Note 8 provides a reconciliation of income taxes computed using the federal statutory rate (35%) to income taxes computed using ZAGG's effective tax rate. Calculate ZAGG's 2012 effective tax rate using the information provided in their income statement. What accounts for the difference between the statutory rate and ZAGG's effective tax rate?

ZAGG's 2012 effective tax rate is 39.3%. The effective tax rate is calculated by dividing income tax expense ($9,393,000) by pre-tax financial income ($23,898,000). The difference between the statutory rate and effective rate is due to the portion of net deferred tax in 2012.

PART F(iv): According to the third table in Note 8 – Income Taxes, ZAGG had a net deferred income tax asset balance of $13,508,000 at December 31, 2012. Explain where this amount appears on ZAGG's balance sheet.

At December 31, 2012, the net deferred income tax asset balance is $13,508,000. Deferred income tax assets are listed twice on ZAGG's balance sheet, once under current assets and once under non-current assets. The amounts of current and non-current deferred income tax assets are $6,912,000 and $6,596,000, respectively. The sum of these two items equals the total net deferred income tax asset balance of $13,508,000.

CASE STUDY 12: Apple, Inc.

CASE STUDY 12: Apple, Inc.

Apple is a multinational company with a variety of technological products and services. Apple has many well-known products, such as the iPhone, iMac, iPod, and more. An industry leader, Apple recognized $229.2 billion in revenue in 2017. As Apple does have such a diverse product and service line, the revenue recognition differs for each. In 2017, the revenue recognition standard was updated; therefore, it is now an asset/liability approach. This case takes a look at the new standard to explain how Apple recognizes revenue, as well as revenue recognition in general.

From this case I learned how the new revenue recognition could be applied based on the company. In addition, I learned more about the financial statement accounts that are impacted, such as deferred and unearned revenue. Not all revenue is recognized when cash is received, therefore it may be considered deferred or unearned revenue. Deferred and unearned revenue are recognized as liabilities, although cash received for services or products is typically recognized as revenue. There can be much discrepancy in revenue recognition, as a company may try to boost revenue numbers and improperly recognize revenue. I will apply this knowledge in my career when I am auditing a client such as Apple. It is important to have a full understanding of the revenue recognition standard to ensure accurate reporting. Overall, this case was very helpful in learning more about revenue recognition and how it is applied.

PART A: In your own words, define "revenues." Explain how revenues are different from "gains."

Revenues are inflows or asset enhancements central to the company's ongoing operations. For example, revenue for a toy store would be the sale of a toy. The main source of the toy store's income is the sale of toys; therefore, it is central to the company's operations. A gain arises from a peripheral transaction that is unrelated to the central operations. An example of a gain would be the sale of a fixed asset for more than book value. If the fixed asset is worth $10,000 but is sold for $20,000, there is a pre-tax gain of $10,000. Net income is derived from revenues less expenses and other gains and losses.

PART B: Describe what it means for a business to "recognize" revenues. What specific accounts and financial statements are affected by the process of revenue recognition? Describe the revenue recognition criteria outline in the FASB's Statement of Concepts No. 5.

In accordance with the new revenue recognition standard, a business recognizes revenue based on an asset/liability approach. The company identifies the contract, performance obligation, transaction price and allocates the transaction price to the related performance obligations. Revenue is recognized when the company satisfies the performance obligation. The performance obligation, which is a promise to provide a product or service to the customer, may be satisfied when the customer has obtained control of the good or service. In addition, revenue may be recognized at a point in time such as through a direct

sale, or over time such as for long-term contracts, in which case the completed-contract or percentage of completion methods are used.

There are four criteria developed by the SEC for recognizing revenue are probability of collection, delivery is complete, persuasive evidence of an arrangement, and the price can be determined. The specific accounts affected by the process of revenue recognition are Sales Revenue, Cost of Goods Sold, Unearned Revenue, Cash, Accounts Receivable, and more. The income statement is directly impacted by revenue, as net income is calculated using revenue and cost of goods sold. The balance sheet lists accounts such as Accounts Receivable, Unearned Revenue, and more.

PART C: Refer to the Revenue Recognition discussion in Note 1. In general, when does Apple recognize revenue? Explain Apple's four revenue recognition criteria. Do they appear to be aligned with the revenue recognition criteria you described in part b, above?

In general, Apple's net sales consist mainly of revenue from sale of hardware, software, and more. Apple's criteria for revenue recognition are when there is existence of persuasive evidence of arrangement, delivery has occurred, the sales price is either determinable or fixed, and there is probable collection. These criteria exactly align with the criteria above. With a variety of products and sales of goods, Apple recognizes most of its revenue when items are shipped. Apple also offers services such as AppleCare, which is a service-type warranty related to the product, available for an extra fee. The company has identified two deliverables with its product—the product itself and the related right to upgrades.

PART D: What are multiple-element contracts and why do they pose revenue recognition problems for companies?

Multiple-element contracts are contracts in which there are multiple deliverables, such as the product and installation. Often, the transaction price is allocated between the two deliverables and revenue is recognized upon satisfaction of the performance obligation. Yet multiple-element contracts pose revenue recognition problems as evidence of separate and identifiable sales prices are required, therefore the company must clearly define the different deliverables and their prices. It can be difficult to identify whether there are one or more performance obligations, which impacts the revenue recognized.

PART E: In general, what incentives do managers have to make self-serving revenue recognition choices?

Self-serving revenue recognition choices can be choices that boost sales numbers, which works out in management's favor. Incentives to making these recognition choices include higher commission from sales, a larger bonus, and company recognition of impressive sales. Unfortunately, this can lead to fraudulent or improper revenue recognition to increase earnings. On the other hand, a manager may manipulate earnings to create "cookie-jar reserves," by taking reserves from a successful year and matching them against losses in a later, less successful year. Therefore, managers make self-serving revenue recognition choices for a variety of reasons for a variety of benefits, however, it is important to ensure reporting and recognition is done in accordance with GAAP.

PART F: Refer to Apple's revenue recognition footnote. In particular, when does the company recognize revenue for the following types of sales?

a. iTunes songs sold online.

Apple recognizes revenue for iTunes songs sold online once Apple has the right to payment for the songs, and the customer has possession of the song on their device. The customer, by inputting payment information or their password to purchase the song, has accepted the asset and the risks and rewards of ownership.

b. Mac-branded accessories such as headphones, power adaptors, and backpacks sold in the Apple stores. What if the accessories are sold online?

Apple recognizes revenue for accessories in the Apple Store once the products have been physically transferred from the store to the customer. In addition, Apple can recognize revenue once they have transferred ownership and have a legal right to payment for the accessories. If the accessories are sold online and the shipping is F.O.B. shipping point, legal title and ownership has passed to the customer and revenue may be recognized. If the products are purchased online with F.O.B. destination, once the customer has physical possession of the asset, Apple may recognize revenue.

c. iPods sold to a third-party reseller in India.

With sales to third-party resellers, Apple would recognize revenue once the third-party has accepted the risks of ownership and have possession of the iPods. If the sale is considered a consignment sale, Apple would recognize the revenue once the iPods have been sold to the final customer.